

LEGEND

- ① W6X25 WITH 1/4" DIA. HOLES ON EACH SIDE OF POST  
FOR STUD NO. 6, CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF  
ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1" X 9/2" X 0'-10", WITH 1/16" X 1/2" SLOTTED HOLES FOR  
ANCHOR BOLTS NO. 3, WELD TO NO. 1 AS SHOWN.
- ③ A325 - 7/8" DIA. HEX BOLTS (GALVANIZED) WITH A325 NUT & WASHER,  
14" LONG AT END POSTS AND AT POSTS ON CONCRETE SLAB  
SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 15". USE 8" LONG  
AT ALL OTHER LOCATIONS. 4 REQ'D. PER POST. THREAD 3" AND PLACE  
NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING.
- ④ 1/4" X 8" X 8" FLAT BAR, WITH 5/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3.
- ⑤ TS 4X4X.25 STRUCTURAL TUBING, CONFORMING TO A.S.T.M. DESIGNATION  
A501 OR A500 GRADE B ATTACH TO NO. 1 WITH TWO STUDS NO. 6.
- ⑥ 5/8" DIA. X 1/2" LG. SHOP WELDED STUDS, WITH HEX. NUT  
AND 2" WASHERS.
- ⑦ PLATE 3/8" X 1'-4" X 1'-8". BOLT TO RAIL AS SHOWN IN DETAIL.  
REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY.  
PLACED SYM. ABOUT C/L
- ⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5 FOR 7/8" DIA. A325 BOLTS  
W/HEX NUTS AND WASHERS.
- ⑨ SQUARE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING  
FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 3 3/8".
- ⑩ TS 3 X 3 X .25 X (2'-4" AT EXPANSION JOINTS) & (1'-10" AT FIELD JOINTS)  
LONG. PROVIDE 1/2" DIA. SURFACE WELDS ON ALL SIDES AS SHOWN.  
GRIND WELDS TO FIT FREE INTO I.D. OF NO. 5. PROVIDE 3/8" DIA. X 1/2"  
WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.

GENERAL NOTES

BID ITEM SHALL BE "RAILING TUBULAR TYPE F B-1-1", WHICH  
INCLUDES ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

POSTS BASE PLATES, NO. 2, SHALL BE FLAT WITH ALL  
SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES  
SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE  
MACHINE OR MACHINE FLAME CUT.

ALL MATERIAL, EXCEPT ANCHORAGE DETAIL (NO. 4) SHALL BE  
GALVANIZED AFTER FABRICATION.

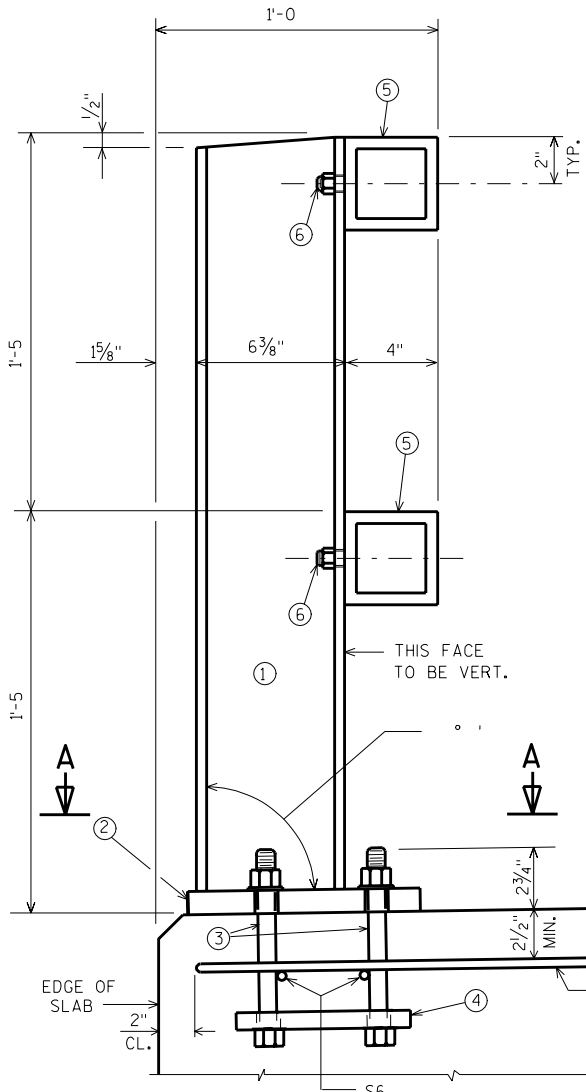
FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE  
NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

ALL MATERIALS USED IN FABRICATION SHALL BE MADE  
FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION  
A709 GRADE 36 UNLESS NOTED OTHERWISE.

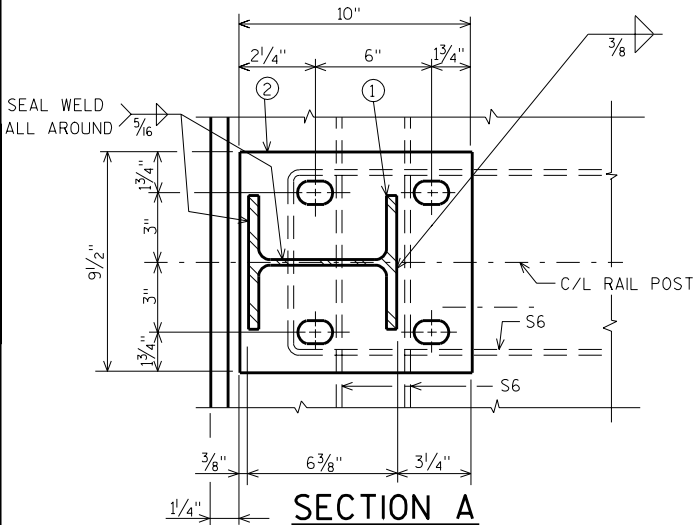
STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE  
REQ'D. FOR ALIGNMENT.

PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL  
BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

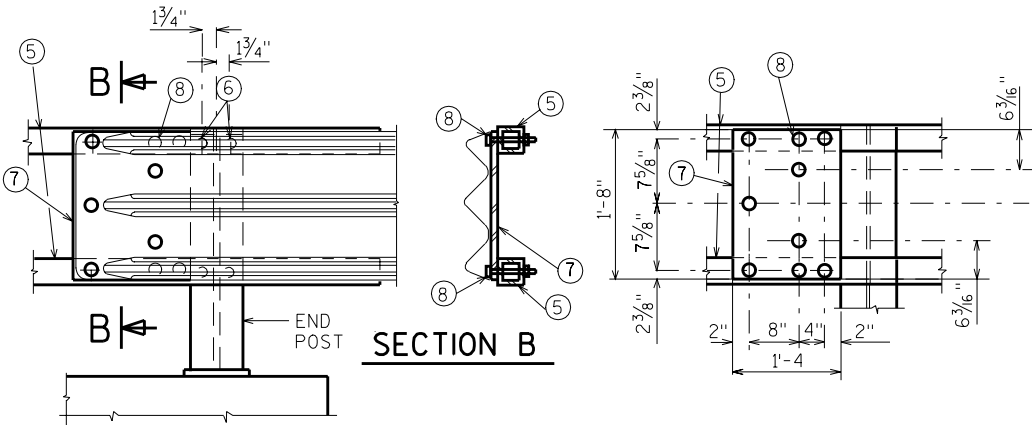
▲ TIE TO TOP MAT OF STEEL.



SECTION THRU RAILING ON DECK



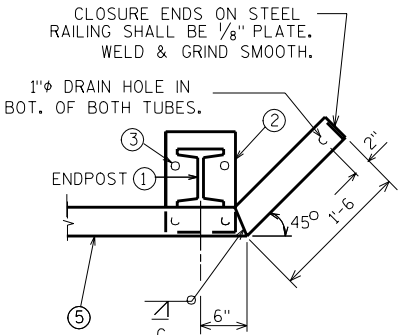
SECTION A



SECTION B

DETAIL AT END POST

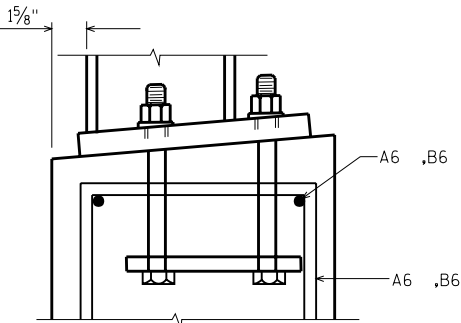
(THRIE BEAM RAIL ATTACHMENT)



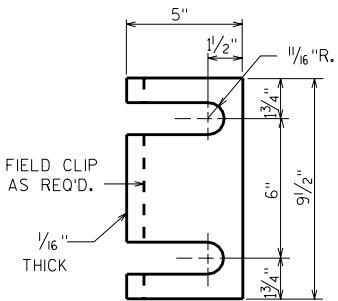
DETAIL FOR END POSTS

SHOP RAIL  
SPLICE DETAIL

(LOCATION MUST BE  
SHOWN ON SHOP DRAWINGS)

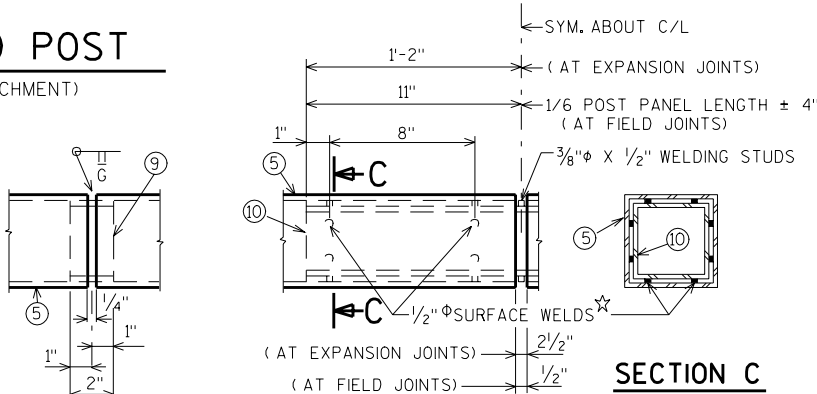


SECTION AT TOP OF WING



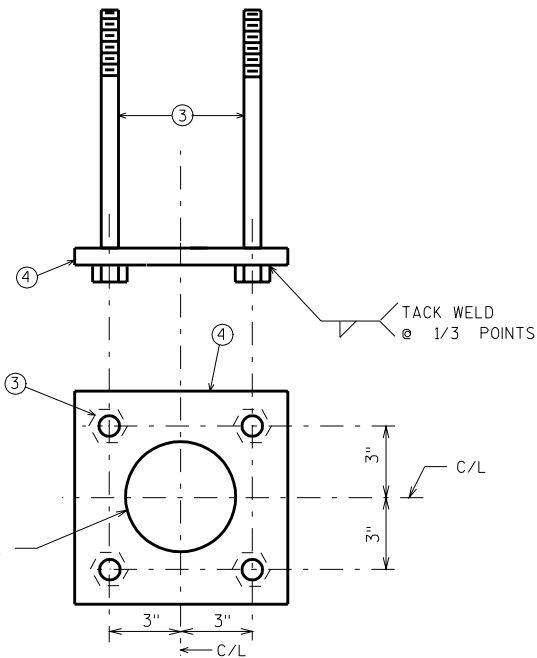
POST SHIM  
DETAIL

(4 PER POST)



FIELD ERECTION  
JOINT DETAIL

★ MIN. 5/8" FLAT SURFACE DIA.  
PUNCHINGS OR STUDS MAY  
BE USED AS AN ALTERNATE.



ANCHORAGE DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE			
DRAWN BY		PLANS CK'D.	
TUBULAR RAILING TYPE 'F'		SHEET	

FILE= RAILF.DGN  
SCALE =